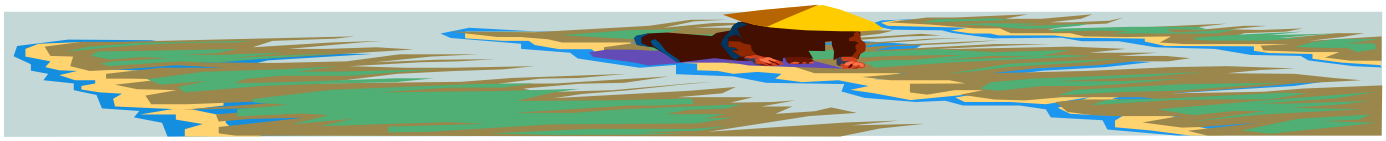

Agricultural Water Conservation Program

Loan Application Package

October 1, 2002


DEPARTMENT OF WATER RESOURCES
STATE OF CALIFORNIA

2002 Agrigultural Water Conservation Program
Loan Application Package
October 1, 2002

The California Department of Water Resources (DWR) invites local agencies to submit an application under the Agricultural Water Conservation Program.

APPLICATION DUE DATE:

This is an open, continuous application process. Submit applications as soon as completed.

SUBMIT APPLICATION TO: Submit 1 original, 5 photocopies, and 1 electronic copy for each Application, on 3.5-inch diskettes or CD-ROM (preferably in a PDF format, or in MS Word and/or Excel compatible format) to:

California Department of Water Resources
Office of Water Use Efficiency
P.O. Box 942836
Sacramento, CA 94236-0001
Attention: Marsha Prillwitz

or overnight carrier or hand deliver to:

California Department of Water Resources
Office of Water Use Efficiency
1416 Ninth Street, Room 338
Sacramento, CA 95814
Attention: Marsha Prillwitz

QUESTIONS? NEED ASSISTANCE? CONTACT:

Marsha Prillwitz, (916) 651-9674 or marshap@water.ca.gov

For an electronic copy of this Application Package, please go to this website: www.water.ca.gov

Notice of Public Workshops

Introduction:

The California Department of Water Resources invites local agencies to submit an application under the Urban and Agricultural Water Conservation Programs.

Workshop Dates and Locations:

Tuesday October 8, 2002	Thursday October 10, 2002	Thursday October 17, 2002	Monday October 21, 2002
10:00 am–12:00pm Cucamonga County Water District 10440 Ashford Street Rancho Cucamonga, California	10:00 am–12:00pm USDA-NRCS 430 G Street Room 229 Davis, California	10:00 am–12:00 pm Department of Water Resources Northern District Room No. 66 2440 Main Street Red Bluff, California	10:00 am–12:00 pm Modesto Irrigation District 1231 Eleventh Street Modesto, California

Purpose of Workshops: These public workshops will provide information about the application package, such as describing the application and the review and selection process, and answering questions.

Workshop Agenda:

Welcome and Introductions	10:00 am
Urban Water Conservation Grant Program	10:30 am
Agricultural Water Conservation Loan Program	11:00 am
Public Comments and Questions	11:30 am
Adjourn	12:00 pm

For More Information: Please direct specific questions related to the Urban and Agricultural Application Packages to Marsha Prillwitz at:
(916) 651-9674 or marshap@water.ca.gov.

Table of Contents

Introduction

The Agricultural Water Conservation Program of the Safe Drinking Water, Clean Water, Watershed Protection and Flood Protection Act (Water Code Section 79157 et seq.) authorizes the California Department of Water Resources (DWR) to make loans to local public agencies and incorporated mutual water companies to finance feasible, cost effective agricultural water conservation projects or programs to improve water use efficiency. Up to $5 million is available for each capital outlay project. A total of $9 million is available for projects during this funding cycle.

DWR is a participating agency in the CALFED Bay-Delta Program. The CALFED Bay-Delta Program Final Programmatic EIS/EIR was released July 21, 2000 and the Record of Decision (ROD) was published August 28, 2000. As described in these documents, the Bay-Delta Program includes strategies to address ecosystem health, water supply reliability, water quality, and levee system integrity. Water use efficiency is critical to the successful implementation of all aspects of the CALFED Program.

General Instructions

Applicants are encouraged to contact DWR for assistance early on or any time in the process of preparing an application. Contact Marsha Prillwitz, Office of Water Use Efficiency at (916) 651-9674.

Who May Apply

Applicants must be either local public agencies (cities, counties, cities and counties, joint powers authorities, or other political subdivisions of the State), or incorporated mutual water companies involved with water management. Agencies that wish to collaborate on a project may elect to use a contractor-subcontractor relationship or a joint powers authority. Contracts will be executed with one applicant only. The application must indicate who will sign the contract and the nature of the agreement between the other participants.

Agencies subject to the Urban Water Management Planning Act must have adopted a complete plan that meets the requirements of the law, and submitted it to DWR to be eligible for Proposition 13 funding (Senate Bill 610, Costa.) If you have questions regarding compliance with the Urban Water Management Planning Act, please contact David Todd at (916) 651-7027 or dtodd@water.ca.gov.

Geographic Scope

Projects throughout California will be considered for funding.

Duration of Projects

The duration of a project will vary depending upon the type, life, and the loan repayment period of the selected project.

Eligible Projects

This loan program will fund feasible, cost effective, capital outlay projects that improve agricultural water use efficiency.

Eligible water conservation projects include, but are not limited to, construction projects or other capital outlays, including the purchase and installation of equipment integral to a given project. In all cases, construction or other capital outlay projects must increase water use efficiency and have benefits that exceed their costs in order to be eligible.

"Capital outlay" means only those capital expenditures that can be immediately and exclusively tied to the achievement of the project purposes. An example of eligible capital expenditures would be specialized computer equipment such as dedicated gate controllers for irrigation management. Capital outlay projects, for purposes of this program, include agricultural water conservation construction projects and projects involving the purchase and installation of water-saving devices of a permanent nature (with a life of seven years or more).

Eligible projects may include, but are not limited to:

- Lining or piping of ditches
- Automating canal structures
- Improvements to water distribution system controls
- Tailwater or spill recovery systems
- Major improvements or replacement of leaking distribution systems
- Purchasing and installing water measurement devices
- Capital improvements for on-farm irrigation

The implementation of capital outlay projects associated with CALFED's Quantifiable Objectives may also be eligible. Quantifiable Objectives are CALFED's estimates of the practical and cost-effective contribution of agricultural water use efficiency toward water supply reliability, water quality improvements, and ecosystem restoration. For more information about Quantifiable Objectives, please refer to this website:
http://calfed.ca.gov/adobe_pdf/water_use_efficiency/qo_detail.pdf

Ineligible Projects

General purpose equipment, such as laptop computers, **are not eligible** for funding; nor are equipment or materials used for operations and maintenance activities. Wellhead rehabilitation, new storage tanks providing expanded capacity, water supply, water treatment, water recycling, wastewater treatment, flood control, conjunctive use, and groundwater banking projects **are not eligible** for funding through this program. No funds will be available to replace existing funding sources for on-going projects, for political advocacy, for the purchase of water, for the establishment of a reserve fund, or for an applicant's litigation costs.

Conflict of Interest and Confidentiality

All participants are subject to State and federal conflict of interest laws. Failure to comply with these laws, including business and financial disclosure provisions, will result in the application being rejected and any subsequent contract being declared void. Other legal action may also be taken. Applicable statutes include,

but are not limited to, Government Code Section 1090, and Public Contract Code Sections 10410 and 10411 for State conflict of interest requirements.

Once the application is signed and submitted to DWR, the applicant waives any right to privacy and confidentiality with respect to the information contained in the application.

Application Review, Evaluation, Selection and Award Process

1. Applications are received by DWR and initially reviewed by the CALFED Water Use Efficiency Agency Team: Department of Water Resources, United States Bureau of Reclamation, Natural Resources Conservation Service, and CALFED.
2. Applications are reviewed by Science and Economics Technical Teams.
3. Applications and Technical Team Reports are provided to the Review Panel (composed of CALFED Agencies, stakeholders, and subject matter experts).
4. The Review Panel members submit preliminary ratings, based on the Selection Criteria.
5. The Review Panel convenes to discuss applications, receive any additional clarification from the technical teams, and revise their scores, as desired.
6. The CALFED Water Use Efficiency Agency Team receives final ratings and comments from the Review Panel and produces a preliminary list of projects recommended for funding based on Review Panel ratings, geographic and categorical distribution, and availability of funds.
7. Public workshops are held and public comments received.
8. Recommendations are presented to the CALFED Water Use Efficiency Subcommittee.
9. Final funding recommendations are presented to the DWR and CALFED Policy Group, or their designee.
10. DWR makes the final funding decision.
11. Projects selected for funding will be posted on the DWR website at www.water.ca.gov.
12. Contracts are prepared and executed, projects begin.

Prior to the execution of a contract, the applicant shall provide a resolution from its governing board accepting the funds and designating a representative authorized to execute the contract and sign requests for disbursement.

Applicants should not begin work on their projects prior to receipt of a commitment of funding. Capital outlay costs incurred prior to the commitment of funds will not be reimbursed.

Preparation of contracts will begin as soon as projects are approved. However, it may take several months to develop and finalize the contracts for successful applications, depending upon the complexity of each project and the readiness of the applicant. Funding agreements are not final until signed by the applicant's authorized representative and DWR.

Selection Criteria

Proposals will be reviewed and ranked according to the following criteria:

A. Technical/Scientific Merit, Feasibility, Monitoring and Assessment (Part A-4 through A-6 and Part B): **30 points**

B. Qualifications of the Applicants and Cooperators (Part A-14): **5 points**

C. Innovation (Part A-7): **10 points**

D. Relevance and Importance (Part D-1): **10 points**

E. Outreach, Community Involvement and Acceptance (Part D-2): **10 points**

F. Benefits and Costs (Part E & F): **35 points**

No project with an average total score of less than 70 points will be funded.

How to Submit an Application

Applications may be submitted on a continuous basis and will be evaluated and recommended for funding upon receipt and the completion of the review process.

All parts of the application must be submitted at one time. Incomplete applications will not be evaluated.

DWR will determine the number of eligible applications to be funded based on available funding.

Please submit 1 original, 5 hard copies, and 1 electronic copy of the application on 3.5-inch diskettes or CD-ROM (preferably in a PDF format or in MS Word and/or Excel compatible format) to:

California Department of Water Resources
Office of Water Use Efficiency
P.O. Box 942836
Sacramento, California 94236-0001
Attention: Marsha Prillwitz
Telephone: (916) 651-9674

For hand delivery or Overnight Carrier, deliver to:

California Department of Water Resources
Office of Water Use Efficiency
1416 Ninth Street, Room 338
Sacramento, California 95814
Attention: Marsha Prillwitz

The entire application shall be in 12-point font or larger with sections numbered according to the sections specified in this application package.

Application Part A — Project Description, Organizational, Financial and Legal Information

A-1 Agricultural Water Conservation Loan Application Cover Sheet

1. Applicant (Organization or affiliation): _____
2. Project Title: _____

3. Person authorized to sign and submit application:
   - **Name, Title** _____
   - **Mailing address** _____
   - **Telephone** _____
   - **Fax** _____
   - **E-mail** _____
4. Contact person (if different):
   - **Name, Title** _____
   - **Mailing address** _____
   - **Telephone** _____
   - **Fax** _____
   - **E-mail** _____

5. Funds requested (dollar amount): _____
6. Applicant funds pledged (dollar amount): _____
7. Total project costs (dollar amount): _____

8. Estimated net water savings (acre-feet/year): _____
   - Estimated total amount of water to be saved (acre-feet): _____
   - Over ____ years _____
   - Benefit/cost ratio of project for applicant: _____
   - Estimated $/acre-feet of water to be saved: _____

9. Project life (month/year to month/year): _____
10. State Assembly District where the project is to be conducted: _____
11. State Senate District where the project is to be conducted: _____
12. Congressional District(s) where the project is to be conducted: _____
13. County where the project is to be conducted: _____
14. Do the actions in this proposal involve physical changes in land use, or potential future changes in land use?
    (a) Yes _____
    (if yes, complete the land use check list at http://www.calfed.water.ca.gov/adobe_pdf/Questionnaires_EC_Permits_Land Use.pdf and submit it with the application
    (b) No _____

A-2 Application Signature Page

By signing below, the official declares the following:

The truthfulness of all representations in the application;

The individual signing the form is authorized to submit the application on behalf of the applicant;

The individual signing the form read and understood the conflict of interest and confidentiality section and waives any and all rights to privacy and confidentiality of the application on behalf of the applicant; and

The applicant will comply with all terms and conditions identified in this Application Package if selected for funding.

_____	_____	_____
Signature	Name and title	Date

A-3 Application Checklist

Complete this checklist to confirm all sections of this application package have been included.

Part A: Project Description, Organizational, Financial and Legal Information

_____A-1 Agricultural Water Conservation Loan Application Cover Sheet
_____A-2 Application Signature Page
_____A-3 Application Checklist
_____A-4 Description of project
_____A-5 Maps
_____A-6 Statement of work, schedule, monitoring and assessment
_____A-7 Innovation
_____A-8 Financial statements
_____A-9 Cash reserves
_____A-10 Existing debt
_____A-11 Repayment method
_____A-12 Loan security
_____A-13 Rate and service structure
_____A-14 Agency authority and qualifications of applicant
_____A-15 Operations and maintenance

Part B: Engineering and Hydrologic Feasibility

_____B-1 Certification statement
_____B-2 Project reports and previous studies
_____B-3 Preliminary project plans and specifications
_____B-4 Construction inspection plan

Part C: Plan for Environmental Documentation and Permitting

_____C-1 CEQA/NEPA
_____C-2 Permits, easements, licenses, acquisitions, and certifications
_____C-3 Local land use plans
_____C-4 State and local statutes and regulations

Part D: Need for Project and Community Involvement

_____D-1 Need for project
_____D-2 Community involvement, support, opposition

Part E: Water Use Efficiency Improvements and Other Benefits

_____E-1 Water use efficiency improvements
_____E-2 Other project benefits

Part F: Economic Justification, Benefits to Costs Analysis

_____F-1 Net water savings
_____F-2 Project budget and budget justification
_____F-3 Economic efficiency
_____Benefit/Cost Analysis Tables 1; 2; 3; 4a, 4b, 4c and 4d; and 5

A-4 Description of Project

Provide a narrative description of the proposed water conservation project. Discuss the project purpose, goals, objectives, and location (including longitude and latitude when appropriate). If the project consists of multiple components, describe all of them and their relationship to one another. Identify which components will be funded by the requested DWR loan.

A-5 Maps

Provide a plat map indicating the service area responsible for project financing, including a list of all property parcels affected by the project.

Provide a detailed map of the project area, preferably a 1:24,000 scale copy or original of a 7.5-minute USGS quad sheet. Mark the location of the project components. Identify the water source and all conveyances from the water source to the proposed project on the map.

A-6 Statement of Work, Schedule, Monitoring and Assessment

Provide a project plan showing tasks including the expected project completion date. The timetable should show the start and end dates for the project milestones. The following tasks should be included on the timetable:

- develop environmental documentation
- develop financing
- design project
- acquire rights of way, if necessary
- acquire all necessary permits
- conduct construction or capital outlay program
- implement environmental mitigation or enhancement
- develop quarterly progress reports, monitoring and assessment reports, final report

Tasks may overlap.

NOTE: If the proposed project is to be phased, expand the project timetable to include all of the necessary information for each phase. Successful applicants will be contractually obligated to complete all project phases that comprise the overall project scope on which DWR's findings of eligibility are based, whether the project is funded solely by a DWR agricultural water conservation loan or from combined sources.

A-7 Innovation

Describe innovative technologies or methodologies to be employed in the project that could contribute to improved efficiencies in projects throughout the State.

A-8 Financial Statements

Attach copies of audited financial statements for the last three fiscal years of operation. Include balance sheets, income statements, sources and uses of funds statements, and the most recent annual budget. Please provide separate detail for the water enterprise fund, if applicable to your organization.

A-9 Cash Reserves

List all cash reserves (restricted and unrestricted) and any planned uses of those reserves.

A-10 Existing Debt

Provide a summary of all existing long-term debt, including bonds. List any pending indebtedness *(USDA Rural Utilities Service loans, Economic Development Agency loans, or other loans)*.

A-11 Repayment Method

Indicate the proposed repayment method for the loan:

1. Standby charges
2. Excess revenues
   Source:
3. Cost savings
4. User fees
5. Assessments
6. Other *(describe)*:

If methods 1, 4, or 5 are to be used for loan repayment, include a proposed plan to divide costs among the system users. Use dollar estimates.

A-12 Loan Security

Explain how the loan will be secured if required by the State *(dedicated revenues, assessments, etc.)*. Cite your organization's statutory authority to use this method of loan security.

A-13 Rate and Service Structure

Attach the rate structure for the last three operating years.

A-14 Agency Authority and Qualifications of Applicant

Attach a copy of agency charter or enabling authority, or the mutual water company's articles of incorporation. Also provide a list of the names and titles of the agency's or company's officers.

Address the following six questions pertaining specifically to this application.

1. Does the applicant have legal authority to submit an application and enter into a funding contract with the State? Provide documentation, such as an agency board resolution or other evidence of authority.

2. What is the legal authority under which the applicant was formed and is authorized to operate?

3. Is the applicant required to hold an election before entering into a funding contract with the State?

4. Does the applicant have the legal authority to levy assessments and charges sufficient to repay the loan?

5. Will the funding agreement between the applicant and the State of California be subject to review and/or approval by other government agencies? If yes, identify all such agencies (e.g. Local Area Formation Commission, local governments, U.S. Forest Service, California Coastal Commission, California Department of Health Services, etc.).

6. Is there any pending litigation that may impact the financial condition of the applicant, the operation of the water facilities, or its ability to complete the proposed project? If none is pending, so state.

Also include a resume(s) of the project manager(s). Resumes may be attached to the end of the Application and shall not exceed two pages.

Identify and describe the role of any external cooperators that will be used for this project.

A-15 Operations and Maintenance

Provide a summary of the operation and maintenance (O&M) costs for the applicant's current water facilities. List the source of revenue to fund such costs.

Provide an estimate of operations and maintenance costs for the new or expanded facilities proposed for funding under this application and the impact of these costs on the applicant's current O&M budget. Identify a source of funds to address any additional O&M costs resulting from the project.

Application Part B—Engineering and Hydrologic Feasibility

The project must be feasible from a hydrologic and an engineering standpoint. The information requested in Sections B-1 through B-4 will be used by DWR to confirm that the proposed water conservation project is feasible from a hydrologic and engineering standpoint. Include references for all sources of information provided in Part B.

B-1 Certification Statement

A certification statement regarding project feasibility must be signed by a California registered civil engineer working on this project. Cite the references (such as feasibility studies, engineering design studies, hydrologic studies and water rights permits, or contracts) used to determine feasibility.

Sample engineering feasibility certification statement

I, _____, a California registered civil engineer, have reviewed the information presented in support of this application. Based on this information, and any other knowledge I have regarding the proposed project, I find that it can be designed, constructed, and operated to accomplish the purpose for which it is planned. There is a sufficient water supply for the project. The information I have reviewed to document this statement is included *(provide list, e.g., feasibility studies, engineering design studies, water rights permits, etc.)*.

_____

(Original signature and stamp with expiration date)

B-2 Project Reports and Previous Studies

Provide a copy of all reports and studies prepared for the proposed water conservation project. If a feasibility study has not been completed for the project, explain what has been done to determine the project's feasibility.

B-3 Preliminary Project Plans and Specifications

Provide a copy of preliminary project plans indicating type of construction, types and quantities of materials, dimensions, cross-sectional drawings and profile drawings, location, elevation (if available), planned mitigation measures (if required), and other appropriate features. The preliminary plans need to be at least a 30 percent plan drawing. Provide a copy of preliminary project specifications, including citations of all standards used and all applicable health and safety specifications such as OSHA standards and applicable building codes (such as Uniform Building Codes).

A California registered civil engineer must prepare the preliminary and final plans and specifications. Each final plan sheet and the cover sheet of the final specifications must be signed and stamped by a California registered civil engineer.

B-4 Construction Inspection Plan

Provide a detailed construction inspection plan describing who will inspect the site and project before, during, and after construction, and when inspections will be made.

Application Part C—Plan for Completion of Environmental Documentation and Permitting Requirements

The application must include a plan for compliance with all applicable environmental requirements. The plan should address all the potential environmental, social and economic impacts of the proposed project, including mitigation, required under the California Environmental Quality Act (CEQA) and,

if applicable, the National Environmental Policy Act (NEPA). The plan should also address compliance with local, county, State, and federal permitting requirements. If this project is not subject to CEQA or NEPA, so state in this section.

C-1 California Environmental Quality Act and National Environmental Policy Act

For projects to be considered for funding, the applicant must submit to DWR the following items as part of the application:

- A detailed plan for compliance with all applicable environmental laws.
- A schedule for completion of all appropriate environmental documentation.
- A completed Environmental Impact Checklist that can be found at:
  http://ceres.ca.gov/topic/env_law/ceqa/guidelines/Appendix_G.html
  If an Initial Study has been prepared for the project, provide a copy of the checklist accompanying that document.

Compliance with NEPA must also be demonstrated if NEPA requirements apply to the project.

CEQA/NEPA documentation must be completed prior to contract execution.

For complete information on the CEQA process, applicants may request a copy of the California State Clearinghouse Handbook by calling (916) 445-0613 or by submitting a written request to:

The State of California
Governor's Office, Office of Planning and Research
1400 Tenth Street
Sacramento, California 95814

For general information about environmental compliance, refer to this website: http://ceres.ca.gov/ceqa.

To determine whether a project falls within the CALFED solution area, applicants may refer to the map on the CALFED home page at: http://calfed.water.ca.gov/. For the CALFED Land Use Checklist that is required for projects that involve physical changes in land use, applicants may refer to "Guide to Regulatory Compliance for Implementing CALFED Actions" at: http://calfed.water.ca.gov/environmental_docs.html.

For assistance in establishing environmental significance of project specific impacts to farmland, please refer to this website:
http://www.consrv.ca.gov/DLRP/qh_lesa.htm

C-2 Permits, Easements, Licenses, Acquisitions, and Certifications

List all required permits, easement rights, licenses, land acquisitions, and certifications of approval of federal, State, and local agencies that may be required for the proposed project. If the proposed project will require Section 404 permits, or streambed alteration permits, address this in the plan for CEQA/ NEPA compliance.

If the proposed project will involve or impact a reservoir or dam of any dimension, the applicant will need to contact Stephen Verigin, Chief, DWR Division of Safety of Dams at (916) 445-7606.

Submit a plan and schedule for obtaining permits required for the proposed project. Information about obtaining the necessary permits can be found at: http://ceres.ca.gov/topic/env_law/ceqa/guidelines/intro.html#intro_anchor.

C-3 Local Land Use Plans

Provide a listing of all relevant local land use or general plans and description of how the proposed project fits within those plans.

C-4 State and Local Statutes and Regulations

Provide a list of all other federal, State and local laws, statutes, regulations, and ordinances governing the proposed project, including any applicable local surface water and groundwater ordinances. Provide evidence of compliance or a plan for compliance.

Application Part D- Need for project and Community Involvement

D-1 Need for the Project

Include an explanation of the need for the project. "Need" means the urgency of need for the project, and the negative consequences if not implemented. Need is determined by the general condition of the water system, current and future water supply and demand, dependency on the water supply, water quality conditions, availability of substitute supplies, and any negative impacts of current surface water or groundwater management.

Describe the current water system condition. Describe the agency's current sources of water, including substitute supplies. Also provide a description of the existing distribution system facilities. Describe any mismatch between these current water system conditions and projected agency demand.

Provide a description of the expected impacts within the agency's service area if the proposed agricultural water conservation project is not constructed. Potential impacts could include population, employment, business and industry, irrigated acreage, emergency supplies, water quality, agency loss or gain of revenue, public safety, agricultural conversion to urban water uses, and the environment.

If the project is within the CALFED solution area, provide a description of how the project will impact the attainment of specific CALFED objectives for ecosystem restoration, water quality, and water supply reliability that apply to the project area. For information about CALFED objectives, please go to: http://calfed.water.ca.gov/general/objectives.html

D-2 Community Involvement, Support, Opposition

Provide a detailed narrative description of how the proposed project fits into both local and regional plans. Include a description of how the applicant has or plans to seek the involvement and input from other community groups and individuals as well as tribes. Community and tribal involvement can be demonstrated through a written summary of community and tribal involvement activities and agreements reached. Include supporting documentation.

Include in the description how other local agencies, whose jurisdiction or water service area is adjacent to the project location, may be involved in the project.

Submit copies of any letters from local environmental organizations, community groups, political bodies, as well as newspaper articles demonstrating support for the proposed project. Describe any opposition to the proposed project. Identify any parties in opposition and briefly discuss the situation.

Application Part E—Water Use Efficiency Improvements and Other Benefits

E-1 Water Use Efficiency Improvements

Under this program, all eligible water conservation projects must demonstrate improvements in water use efficiency. For purposes of this application, water use efficiency means an action or an activity that causes the net value of the beneficial use of water to be increased. This increase can be due to a decrease in the costs associated with the use of that water (e.g., reduced acquisition and/or treatment costs), an increase in the value generated by the use of that water (e.g., increased urban, agricultural, or environmental water supply reliability) or both.

Explain through a narrative description, and quantify whenever possible, how the proposed water conservation project will result in improved water use efficiency.

E-2 Other Project Benefits

This category includes other benefits and accomplishments from the proposed project not included above. When economic values cannot be assigned to expected project benefits, expected project benefits should be quantified in physical terms. For example, estimates of increases in stream flow volume due to the project at a time of year when those flows would be important to fish habitat enhancement should be provided.

Any expected project accomplishments that cannot be assigned a numerical value, either in dollars or in specific physical quantities, should be described as completely as possible.

If the proposed project is within the CALFED solution area, provide a description of how proposed benefits will help achieve specific CALFED objectives for ecosystem restoration, water supply reliability, and water quality that apply to the project area. For more information, please go to the CALFED website at www.calfed.water.ca.gov.

Additional benefits may accrue to the intended project beneficiaries, including purchasers of marketed supplies developed by the project, or they may also accrue to third parties, including direct and indirect environmental benefits. This can include an evaluation of economic justification beyond that directly associated with the parties participating in the proposed project, either as the project builder or as a purchaser of any developed supply.

Report any expected project accomplishments that would accrue to parties not directly participating in the proposed project as beneficiaries but which may be affected by hydrologic changes related to project implementation (e.g., stream flow, water quality) anywhere in the system.

Explain through a narrative description, and quantify whenever possible, how the proposed water conservation project will result in other project benefits.

Application Part F – Economic Justification: Benefits to Costs

This section requires the quantification of economic benefits accruing to those parties directly involved in the project, including purchasers of market supplies developed by the project. The calculation will be used for determining if project benefits are equal to or greater than project costs.

For a project to qualify for a loan, the Benefit/Cost ratio must be equal to or greater than 1.0.

A format for calculating and presenting benefits, costs and economic efficiency may be found in the Tables in the Appendix. Use the quantitative data developed from Parts F-1 through F-3 to complete the Tables. An Excel version of the Tables is available on the DWR website at www.water.ca.gov. Please use those tables or a similar methodology (with full documentation) to complete this section of the application.

F-1 Net Water Savings

Under this program, all agricultural water conservation projects must demonstrate net water savings in order to be eligible to receive funding. Net water savings means savings achieved by reducing water losses that are currently going to an “unusable” destination from an already-developed primary water source or sources.

Net water savings can be achieved by:

- reducing losses to the atmosphere through evaporation or transpiration
- reducing losses to saline or other unusable aquifers or water bodies through percolation or surface flows

The reduction or elimination of water losses percolating to usable groundwater aquifers or returning to streams where the water is available for reuse is not considered part of net water savings. The reduction or elimination of water losses recovered or potentially recoverable outside the local agency's service area is also not considered to be net water savings. Provide a detailed explanation as to how the proposed agricultural water conservation project will produce a net water savings. Cite and attach any pertinent back-up data. If the amount of net water savings is estimated, describe how the value was determined.

Describe and calculate or estimate the net water savings (in acre feet per year) to be produced by the project. Enter this amount in Table 4.

F-2 Project Budget and Budget Justification

Funding awarded for agricultural water conservation projects pursuant to the Bond Law may be used for reasonable costs of engineering design, land and easement acquisition, legal fees, environmental mitigation, and construction of water conservation facilities, including monitoring systems to assess project impacts. Costs incurred prior to applying including preparation of the application to establish eligibility and costs for a feasibility study done to assist in the preparation of a construction loan application may, at DWR's discretion, be reimbursed from the loan proceeds. Applicants should consider the applicability of prevailing wage laws when estimating project costs.

Costs that are not eligible for funding include:

1. Costs, other than those noted above, incurred prior to applying for or receiving funding,
2. Operations and maintenance costs,
3. Purchase of equipment not an integral part of the project,
4. Establishing a reserve fund,
5. Purchase of water supplies,
6. Replacement of existing funding for ongoing programs,
7. Support of existing agency requirements and mandates,
8. Purchase of land in excess of the minimum required acreage necessary to operate as an integral part of the project, as set forth and detailed by engineering and feasibility studies, and
9. Payment of principal or interest of existing indebtedness or any interest payments unless:
    a) The debt is incurred after issuance of a letter of commitment of funds by DWR;
    b) The DWR agrees in writing to the eligibility of the costs for reimbursement before the debt is incurred; and
    c) The purposes for which the debt is incurred are otherwise eligible project costs.

Project budget

(1) Prepare a detailed project budget that includes the following items including a description and justification for each item in the budget.

a) Land Purchase/Easement
b) Planning/Design/Engineering
c) Materials/Installation
d) Structures
e) Equipment Purchases/Rentals
f) Environmental Mitigation/Enhancement
g) Construction Administration/Overhead
h) Legal & License Fees
i) Other
j) Contingency Costs typically 15 percent of budget
k) TOTAL

Enter the budget information into Table 1. Add additional line items as necessary. Calculate the annual costs for administration, operations, maintenance and other costs; enter into Table 2.

F-3 Economic Efficiency

Include all quantifiable direct economic benefits accruing to project participants, relative to the cost of the project. Any expected third party economic benefits arising from the project may be included.

Also, provide a description of additional quantifiable economic benefits directly going to project participants. These economic benefits might result from water quality improvements, reduced treatment costs, reduced operations and maintenance costs, environmental uses of water, energy savings, or other factors.

For the purposes of calculating the economic value of benefits, the preferred approach is to use either avoided costs or alternative costs of future supply sources, whichever is most appropriate. The avoided cost valuation method is appropriate only if it is reasonable to assume that the identified alternative(s) would indeed be used if the proposed project did not provide the claimed benefit.

The value of the project's water supply is determined by how the water will be used. If the applicant has enough water supplies for the foreseeable future, then the water conserved by the project will allow that agency to reduce the amount of water purchased, diverted, or pumped from its most expensive current water supply source. However, if the applicant needs to augment water supplies to meet future demands, then the value to the water agency is measured by the least-cost alternative that may be eliminated or delayed because of the project. Finally, if the applicant plans to sell all or part of the project water to existing customers, new customers, or other agencies, then the value of the conserved water can be measured by the expected price for which it is sold, thus generating revenue. Although in most cases only one of those benefits will apply, it is possible that a combination of benefits can occur.

Analysis assumptions
Applicants must use the following assumptions in determining the benefits and costs for the proposed project:

Period of analysis. The economic evaluation will be based on an analysis period of up to 50 years for construction projects. For other capital outlay projects involving the purchase and installation of water conserving equipment or devices, the period of analysis will vary, but should be no less than seven years.

Inflation and escalation. For ease of analysis, applicants will assume zero future inflation and escalation of costs.

Discount rate. Because benefits and costs of construction projects are evaluated over a period of up to 50 years, and other capital outlay projects are evaluated over a period of time based on the life of the project of at least seven years, they must be discounted to reflect the value of money over time (a dollar received today is worth more than one received in the future). DWR uses a 6 percent discount rate.

Dollar value base year. All benefits and costs will be expressed in current year dollars (please indicate year).

Multiple-funded projects. The economic analysis will be conducted for the entire project, regardless of funding sources. All project costs (capital and O&M) must be included in the economic analysis, even if the applicant-requested loan only funds part of the project.

Project costs (Tables 1, 2, and 3). Project costs usually include capital (construction) and annual operation and maintenance (O&M) costs. Although some project costs are not fundable under this program, all costs required to achieve project benefits must be included in the economic evaluation. If the project consists of multiple components, include all of them in the project budget.

Avoided Cost of Current Supply Source (Table 4a). The cost an applicant would incur if the proposed project is not implemented as a result of deferring, eliminating, or downsizing projects to provide future water supply. Report only the portion of the cost of water that would be avoided as a result of the proposed project. Describe how the avoided cost was calculated.

Alternative Cost of Future Supply Sources (Table 4b). The cost an applicant would incur if an alternative project is implemented instead of the proposed project. Provide documentation that the alternative project is being considered, such as Board minutes.

Water Supply Vendibility (Table 4c). The anticipated revenue from water sales to existing customers, new customers, or other agencies. Provide documentation that a water sale is being considered as a result of this project.

Describe and calculate the avoided cost of current supply sources and the alternative costs of future supply sources. Enter that information into Table 4a and 4b. Describe and calculate the anticipated revenue from water sales and enter that information into Table 4c. If the project has other costs or benefits that

are not adequately captured in the tables, describe them here.

Appendix- Benefit/Cost Analysis Tables

Table 1: Capital Costs

Table 2: Annual Operations and Maintenance Costs

Table 3: Total Annual Costs

Table 4a: Water Supply Benefits: Avoided Cost of Current Supply Sources
Table 4b: Water Supply Benefits: Alternative Cost of Future Supply Sources
Table 4c: Water Supply Benefits: Water Supplier Revenue (Vendibility)
Table 4d: Total Water Supply Benefits

Table 5: Benefit/Cost Ratio

Table 6: Capital Recovery Factor

If Operation and Maintenance Costs or Benefits vary significantly over time, use the "Long Form" Tables provided on the website at: www.water.ca.gov.

Please contact Lorraine Marsh, DWR Economist at (916) 653-6414 or lmarsh@water.ca.gov if you need assistance or have any questions about the tables.

Table 1: Capital Costs

	Capital Cost Category *(a)*	Cost *(b)*	Contingency Percent *(c)*	$ *(d)* *(bxc)*	Subtotal *(e)* *(b+d)*
(a)	Land Purchase/Easement				
(b)	Planning/design/Engineering				
(c)	Materials/Installation				
(d)	Structures				
(e)	Equipment Purchases/rentals				
(f)	Environmental Mitigation/Enhancement				
(g)	Construction/Administration/Overhead				
(h)	Project Legal/License Fees				
(i)	Other				
(j)	Total **(1)** (a + ... + i)				
(k)	Capital Recovery Factor: use Table 6				
(l)	Annual Capital Costs (j x k)				

(1) Costs must match Project Budget prepared in Section F-2.

Table 2: Annual Operations and Maintenance Costs

Administration *(a)*	Operations *(b)*	Maintenance *(c)*	Other *(d)*	Total *(e)*

Table 3: Total Annual Costs

Annual Capital Costs (1) *(a)*	Annual O&M Costs (2) *(b)*	Total Annual Costs *(c)* *(a+b)*

(1) **From Table 1 line (l)**
(2) **From Table 2 Total, column *(e)***

Table 4: Water Supply Benefits

Net water savings (acre-feet/year) _____

4a. Avoided Costs of Current Supply Sources

Sources of Supply *(a)*	Cost of Water ($/AF) *(b)*	Annual Displaced Supply (AF) *(c)*	Annual Avoided Costs ($) *(d)* *(b x c)*
Total			

4b. Alternative Costs of Future Supply Sources

Future Supply Sources *(a)*	Total Capital Costs ($) *(b)*	Capital Recovery Factor (1) *(c)*	Annual Capital Costs ($) *(d)* *(b x c)*	Annual O&M Costs ($) *(e)*	Total Annual Avoided Costs ($) *(f)* *(d + e)*
Total					

(1) 6% discount rate; Use Table 6- Capital Recovery Factor

4c. Water Supplier Revenue (Vendibility)

Parties Purchasing Project Supplies *(a)*	Amount of Water to be Sold *(b)*	Selling Price ($/AF) *(c)*	Expected Frequency of Sales (%) (1) *(d)*	Expected Selling Price ($/AF) *(e)* *(c x d)*	"Option" Fee ($/AF) (2) *(f)*	Total Selling Price ($/AF) *(g)* *(e + f)*	Annual Expected Water Sale Revenue ($) *(h)* *(b x g)*
Total							

(1) During the analysis period, what percentage of years are water sales expected to occur? For example, if water will only be sold half of the years, enter 50% (0.5)

(2) "Option" fees are paid by a contracting agency to a selling agency to maintain the right of the contracting agency to buy water whenever needed. Although the water may not be purchased every year, the fee is usually paid every year.

4d: Total Water Supply Benefits

(a) Annual Avoided Cost of Current Supply Sources ($) from 4a, column *(d)*	
(b) Annual Avoided Costs of Future Supply Sources ($) from 4b, column *(f)*	
(c) Annual Expected Water Sales Revenue ($) from 4c, column *(h)*	
(d) Total Annual Water Supply Benefits ($) (a + b + c)	

Table 5: Benefit/Cost Ratio

Project Benefits ($) (1)	
Project Costs ($) (2)	
Benefit/Cost Ratio	

(1) From Table 4d, row (d): Total Annual Water Supply Benefits
(2) From Table 3, column *(c)* : Total Annual Costs

Table 6: Capital Recovery Factor

(Use to obtain factor for Table 1, Line k or Table 4b, Column *(c)*

Life of Project (in years)	Capital Recovery Factor
7	0.1791
8	0.1610
9	0.1470
10	0.1359
11	0.1268
12	0.1193
13	0.1130
14	0.1076
15	0.1030
16	0.0990
17	0.0954
18	0.0924
19	0.0896
20	0.0872
21	0.0850
22	0.0830
23	0.0813
24	0.0797
25	0.0782
26	0.0769
27	0.0757
28	0.0746
29	0.0736
30	0.0726
31	0.0718
32	0.0710
33	0.0703
34	0.0696
35	0.0690
36	0.0684
37	0.0679
38	0.0674
39	0.0669
40	0.0665
41	0.0661
42	0.0657
43	0.0653
44	0.0650
45	0.0647
46	0.0644
47	0.0641
48	0.0639
49	0.0637
50	0.0634

California Department of Water Resources
Office of Water Use Efficiency
P.O. Box 942836

Sacramento, California 94236-0001